

Appln No. 09/943,583
Amdt date June 8, 2006
Reply to Office action of March 9, 2006

REMARKS/ARGUMENTS

Claims 1-52 were pending in this application when last examined by the Examiner. Claims 1, 17, 21-22, 26, 32-33, 35, 46, and 50 have been amended. Claims 10-12, 15-16, 31, and 44-45 have been canceled. Claims 53-60 have been added. The amendments find full support in the original specification, claims, and drawings. No new matter has been added. In view of the above amendments and remarks that follow, reconsideration and an early indication of allowance of the now-pending claims 1-9, 13-14, 17-30, 32-43, and 46-60 are respectfully requested.

Claims 1, 4-6, 13-17, 32-35, 38-40, and 44-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Shoff et al. (U.S. Patent No. 6,240,555). Applicant respectfully traverses this rejection.

Claim 1 has been amended to recite that the generating of the annotation data includes "generating a single mask for each of the plurality of video frames, each mask including a plurality of pixels, wherein each of the plurality of pixels is mapped to an indicia for identifying a region or video object appearing in the corresponding video frame, wherein each pixel associated with the same region or video object is mapped to the same indicia, each mask further including graphics data for at least one of a plurality of video objects appearing in the corresponding video frame." Support for this amendment is found in paragraphs 0083-0084 of the specification. Shoff fails to teach or suggest the claimed mask.

Shoff discloses that supplemental content may be presented along with a traditional video program in a manner that is synchronized with the video program. (Col. 12, lines 44-47). Shoff's supplemental content, however, is a hypertext document containing formatting instructions in the form of HTML markup codes or "tags." (Col. 12, lines 48-67). One such HTML tag which is novel in Shoff's system is a "GALLERY" tag which contains a URL to the actual graphic that is to be displayed. (See, Col. 14, Table 2). Thus, Shoff's supplemental content does not contain any "graphics data for at least one of a plurality of video objects appearing in the corresponding video frame." Furthermore, nothing in Shoff indicates that the

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disclosed supplemental content includes "a plurality of pixels, wherein each of the plurality of pixels is mapped to an indicia for identifying a region or video object appearing in the corresponding video frame, wherein each pixel associated with the same region or video object is mapped to the same indicia." Accordingly, claim 1 is now in condition for allowance.

Independent claims 32 and 35 include limitations that are similar to the limitations of claim 1 which make claim 1 allowable. Accordingly, claims 32 and 35 are also in condition for allowance.

Claims 4-6, 13-17, 33-34, 38-40, and 44-46 are also in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain.

Claims 22-25 and 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Srinivasan et al. (U.S. Patent No. 6,357,042). Applicant respectfully traverses this rejection.

Claim 22 has been amended to recite that the annotation data includes "a single mask for each of the plurality of video frames, each mask including a plurality of pixels, wherein each of the plurality of pixels is mapped to an indicia for identifying a region or video object appearing in the corresponding video frame, wherein each pixel associated with the same region or video object is mapped to the same indicia, each mask further including graphics data for at least one of a plurality of video objects appearing in the corresponding video frame." Srinivasan fails to teach or suggest this limitation.

Srinivasan discloses an authoring station which tracks an image and provides an annotation data stream which is synchronized with an original video stream. (Col. 11, lines 53-62). A value table is then generated for the tracked image as is illustrated in FIG. 4. The value table includes five values for each target pixel -- X coordinate value, Y coordinate value, R value, G value, and B value. (See, Col. 9, lines 31-42). The value table, however, does not contain any graphics data, and what is more, fails to map each pixel "associated with the same region or video object . . . to the same indicia" for identifying the region or video object of a video frame. (Emphasis added).

Even if Srinivasan's value tables were deemed to be the claimed masks, nothing in Srinivasan teaches or suggests "a single mask for each of the plurality of video frames"

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(Emphasis added). Because Srinivasan's value tables are generated on an image by image basis as opposed to a video frame by video frame basis, Srinivasan would result in the creation of multiple value tables if multiple images are tracked. In fact, Srinivasan teaches using separate authoring stations for each image entity to be tracked, where each authoring station not only creates a separate value table, but a separate annotation stream. (Col. 14, lines 40-67). Although Srinivasan discloses in column 15, lines 9-11, that an authoring server is adapted to combine the various annotation streams from the different authoring stations, this does not teach or suggest "a single mask for each of the plurality of video frames" as is required by claim 22. (Emphasis added). Accordingly, claim 22 is now in condition for allowance.

Claims 25 and 29-31 are also in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain.

Claims 21 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff in view of Wistendahl et al. (U.S. Patent No. 6,496,981). Applicant respectfully traverses this rejection.

Claims 21 and 50-52 are in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain. Specifically, claims 21 and 50 add the further limitation that "at least one of the masks comprises location and shape information of an object in the corresponding video frame." Claims 51 and 52 respectively define the shape information as being represented by a "graphical overlay" and an "outline of said object." The Examiner relies on Wistendahl as disclosing the recited "location and shape information." Applicant respectfully disagrees.

Wistendahl is directed to an authoring system for generating object mapping data ("hot spots") for a media content. (Abstract). This is accomplished by specifying the display location coordinates of selected objects within a frame or series of frames of a display and their frame addresses. The display location coordinates and frame addresses of the "hot spots" are stored as "N data" separately from the media content. (Col. 5, lines 30-35). An interactive digital media program (IDM) resident in the TV set top box responds to user selections of the "hot spots" by launching further layers of display presentations and/or triggering other program functions.

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(Abstract, Col. 5, lines 43-49). Thus, although Wistendahl transmits "N data" for different frames, the "N data" only contains location coordinates, and not the actual graphics data associated with at least one of plurality of video objects. Instead, all display presentations are determined by the IDM program which causes files or executable functions (e.g. "GO TO . . ." functions) to be performed. (See, Col. 7, lines 1-10). However, neither the IDM program nor files invoked by the IDM program can be interpreted to read on the claimed "mask" because nothing in Wistendahl teaches or suggests that there is a single IDM program or file "for each of the plurality of video frames," or that either the IDM program or files include "a plurality of pixels, wherein each of the plurality of pixels is mapped to an indicia for identifying a region or video object appearing in the corresponding video frame, wherein each pixel associated with the same region or video object is mapped to the same indicia." Accordingly, claims 21 and 50-52 are also in condition for allowance for the additional limitations contained in these claims.

Claims 2, 36, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff in view of Hidary et al. (U.S. Patent No. 5,774,664). Claims 3 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff in view of Eyer et al. (U.S. patent No. 5,982,445). Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff in view of Travaille et al. (U.S. Patent No. 6,067,107). Claims 18-20 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff in view of Srinivasan. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan in view of Shoff. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan in view of Purnaveja et al. (U.S. Patent No. 6,006,241). Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff in view of Oguro et al. (US 2001/0033739) and Hidary. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff in view of Purna.

Claims 10-12 have been canceled. Remaining claims 2-3, 7-9, 18-20, 26-28, 36-37, 41-43, and 47-49 are in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain.

Claims 53-60 are new in this application. These claims are in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they

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introduce. Specifically, claims 53 and 57 recite that "each mask includes graphics data for a plurality of video objects appearing in the corresponding video frame." (Emphasis added). Support for these claims may be found in paragraph 0084. None of the cited references teach or suggest the limitations in these claims. Accordingly, claims 53 and 57 are also in condition for allowance for the inclusion of these additional limitations.

Claims 54 and 58 recite that "each mask further includes timing information of the corresponding video frame, wherein the augmented video information transmission generator associates the video information with the annotation data based on a comparison of the annotation data timing information and the timing information included in the masks." Support for these claims may be found in paragraph 0071. None of the cited references teach or suggest the limitations in these claims. Accordingly, claims 54 and 58 are also in condition for allowance for the inclusion of these additional limitations.

Claims 55 and 59 recite that "the annotation data further includes a plurality of object data packets, the mask further including an identifier to an object mapping table included in one or more of the plurality of object data packets, the object mapping table including at least one entry with an indicia from the corresponding mask identifying a particular video object, the entry further associating the indicia to information data structures included in one or more of the plurality of object data packets, the information data structures including information for the particular video object." Support for these claims may be found in paragraphs 0083-0087. None of the cited references teach or suggest the limitations in these claims. Accordingly, claims 55 and 59 are also in condition for allowance for the inclusion of these additional limitations.

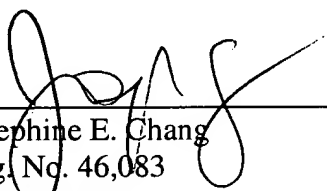
Claims 56 and 60 further recite a television receiver configured to "overlay a graphics image on a particular video frame for the particular video object based on the graphics data included in the corresponding mask; retrieve the identifier of the object mapping table from the corresponding mask responsive to a user selection associated with the overlaid graphics image; retrieve the object mapping table based on the retrieved identifier; identify the indicia in the corresponding mask for the particular video object for which the graphics image was overlaid; locate the entry in the object mapping table with the identified indicia; identify the information

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data structures associated with the located entry; retrieve the information in the identified information data structures; and display the retrieved information on the display device." Support for these claims may be found in paragraphs 0095-0099. None of the cited references teach or suggest the limitations in these claims. Accordingly, claims 56 and 60 are also in condition for allowance for the inclusion of these additional limitations.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration and an early indication of allowance of the now pending claims 1-9, 13-14, 17-30, 32-43, and 46-60.

Respectfully submitted,
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